Amendments to the Claims:

Claims 1- 59 (canceled)

Claim 60 (currently amended) A method for assessing the coagulation system in a test sample, comprising:

(a) providing a sample to be tested;

(b) adding an activator to said sample in an amount sufficient to trigger a thrombin explosion dependent on propagation phase and amplification loops and subject to one or more anticoagulant pathways but said amount insufficient to result in complete fibrin polymerization;

(c) measuring the amount of said ~~polymerization of~~ fibrin polymerization due to said thrombin explosion; and

(d) assessing the coagulation system in said test sample based on said measured fibrin polymerization.

Claim 61-62 (canceled)

Claim 63 (currently amended) The method of claim 60, wherein an activator of protein C is added to cause the fibrin polymerization to be sensitive to the protein C pathway, and said activator of protein C is selected from the group consisting of purified human thrombomodulin, purified non-human mammalian thrombomodulin, soluble or membrane associated thrombomodulin, native thrombomodulin or thrombomodulin reconstituted with phospholipids, partially or fully glycolsylated thrombomodulin, fully deglycosylated thrombomodulin, and combinations thereof.

Claim 64 (canceled)

Claim 65 (currently amended) The method of claim 60, wherein the activator comprises recombinant or purified tissue factor, truncated tissue factor, or cells expressing tissue factor on their surface, and step (b) further comprises including vesicles selected from the group consisting of platelets, cellular debris, phospholipid vesicles, platlet microparticles, and combinations thereof.

Claim 66 (previously presented) The method of claim 60, wherein the fibrin polymerization is monitored over time to provide a time-dependent measurement profile.

Claim 67 (previously presented) The method of claim 66, wherein an endpoint is extracted from the time-dependent measurement profile.

Claim 68 (previously presented) The method of claim 67, wherein the endpoint is normalized by using a model.

Claim 69 (previously presented) The method of claim 68, wherein the model is a ratio or difference of the endpoint compared to an endpoint from a time-dependent measurement profile for a known sample.

Claim 70-73 (canceled)

Claim 74 (previously presented) The method according to claim 66, wherein the rate or acceleration of fibrin polymerization is determined from the time-dependent measurement profile, wherein said rate or acceleration is compared to rate or acceleration at the same activator concentration for a known sample and/or the rate or acceleration of the test sample at a different activator concentration.

Claim 75-77 (canceled)

Claim 78 (currently amended) A method for detecting defects in the propagation and/or amplification phase in the coagulation system of a test sample, comprising:

(a) providing a sample to be tested;

(b) adding an activator in an amount sufficient to ~~capable of~~ triggering a thrombin explosion that is dependent on the propagation phase and/or amplification loops of the coagulation system in the test sample but said amount insufficient to result in complete fibrin polymerization;

(c) measuring said fibrin polymerization; and

(d) detecting defects of regulation or modulation in the propagation phase and/or amplification loops in the coagulation system of the test sample based on the measured fibrin polymerization.

Claim 79 (currently amended) The method according to claim 78, wherein the fibrin polymerization is monitored over time to provide a time-dependent measurement profile and

all or part of said time-dependent profile of said sample to be tested is compared to all or part of a time-dependent profile for a known sample.

Claim 80-86 (canceled)

Claim 87 (currently amended) The method according to claim 79 ~~86~~, wherein part of said ~~each~~ fibrin polymerization profile of said test sample is compared to a same part of said ~~a~~ profile for a known sample.

Claim 88 (currently amended) The method according to claim 87 ~~88~~, wherein said part is rate or acceleration of fibrin polymerization of said test sample, wherein said rate or acceleration is compared to rate or acceleration at the same activator concentration for said known sample.

Claims 89-90 (canceled)

Claim 91 (previously submitted) The method according to claim 78, wherein one or more parameters of said time-dependent fibrin polymerization profile are compared to the same one or more parameters for a normal sample, in order to determine whether said patient is hypercoagulable, normal or hypocoagulable.

Claim 92 (previously submitted) The method according to claim 91 ~~84~~, wherein said at least one parameter includes at least one of time of initiation of clot formation, rate of clot formation, maximum acceleration of clot formation, turbidity at a predetermined time period, and total change in turbidity.

Claim 93 (previously submitted) The method according to claim 92 wherein said one or more parameters are measures of defects in the thrombin propagation and/or amplification phases.

Claim 94 (previously submitted) The method according to claim 92, wherein a ratio of said at least one parameter for said test sample to the same parameter for a normal sample is determined.

Claim 95-187 (canceled)

Claim 188 (currently amended) ~~A~~ The method according to claim 60 wherein ~~for monitoring an antithrombotic or procoagulant pharmaceutical therapy, comprising:~~

~~providing a first test sample from a patient;~~

~~adding an activator to said test sample in order to trigger a thrombin explosion dependent upon the propagation phase and amplification loops of the coagulation system in the test sample;~~

~~measuring fibrin polymerization due at least in part to said thrombin explosion;~~

~~determining whether the patient is hypocoagulable, normal or hypercoagulable, or providing a baseline;~~

if the patient is hypercoagulable or hypocoagulable, then said method further comprises the following steps:

(e) adminstering one or more antithrombotic or procoagulant pharmaceuticals to said patient;

(f) providing at least one additional sample from said patient at a time after administration of the pharmaceutical;

(g) adding said activator to said at least one additional sample in order to trigger a thrombin explosion dependent upon the propagation phase and amplification loops of the coagulation system in the test sample;

(h) measuring fibrin polymerization in said second sample due at least in part to said thrombin explosion;

(i) determining whether the second patient sample is hypocoagulable, normal or hypercoagulable, or determining a change from a baseline of said patient; and

(j) determining the effectiveness of the pharmaceutical therapy based on any changes in the hypocoagulability or hypercoagulability from the first test sample, or any changes from baseline.

Claims 189-205 (canceled)

Claim 206 (currently amended) ~~A~~ The method according to claim 60 ~~for evaluating the efficacy of an antithrombotic or procoagulant pharmaceutical, comprising:~~

~~providing a first test sample from a human or non-human mammal;~~

~~adding an activator to said first test sample in order to trigger a thrombin explosion dependent upon the propagation phase and amplification loops of the coagulation system in the test sample;~~

~~measuring fibrin polymerization in the first test sample due at least in part to said thrombin explosion;~~

~~determining whether the sample is hypocoagulable, normal or hypercoagulable, or providing a baseline;~~

wherein if said patient is hypocogulable or hypercoaguable, said method further comprises the steps of:

(e) administering one or more antithrombotic or procoagulant pharmaceuticals to ~~the mammal~~ the patient from which said test sample is collected;

(f) providing at least one additional sample from said patient ~~the mammal~~ at a time after administration of the pharmaceutical;

(g) adding said activator to said at least one additional sample in order to trigger a thrombin explosion dependent upon the propagation phase and amplification loops of the coagulation system in the test sample;

(h) measuring fibrin polymerization in said at least one additional sample due at least in part to said thrombin explosion;

(i) determining the degree of hypocoagulability or hypercoagulability of the second patient ~~mammalian~~ sample, or a change from a baseline of said patient; and

(j) determining the efficacy of the pharmaceutical based on any changes in the hypocoagulability or hypercoagulability from the first test sample, or any changes from baseline.

Claims 207-224 (canceled)

Claim 225 (currently amended) A method of determining a coagulation status of a patient comprising:

(a) providing a plasma or whole blood sample from a first patient;

adding one or more reagents for activating coagulation, and a metal cation or metal salt which dissociates into a metal cation, and vesicles;

(b) determining that the patient is hypercoagulable or hypocoagulable;

providing a plasma or whole blood sample from a second patient;

(c) adding the one or more reagents comprising the same coagulation activator, metal cation or metal salt, and vesicles as in step (b) to the second patient sample; and

(d) determining that the second patient is the other of hypocoagulable or hypercoagulable opposite to the first patient.

Claim 226 (currently amended) A method according to claim 60 wherein said method is utilized for assessing the hemostatic potential of a said sample ~~comprising:~~

~~a. providing a sample to be tested;~~

~~b. adding a coagulation activator to the sample;~~

~~c. generating a time dependent measurment profile; and~~

~~assessing the hemostatic potential of the sample from the time dependent measurement profile~~.

Claim 227 (canceled)

Claim 228 (currently amended) The method of claim 226, further comprising determining whether a patient from whom the sample was taken has a thrombotic or hemorrhagic ~~hemorhagic~~ tendency.

Claims 229-252 (canceled)